

FIG. 1

162

Tag <u>164</u>	Operation <u>166A</u>	Operation <u>166B</u>	Operation <u>166C</u>	Operation <u>166D</u>	Flow Control <u>168</u>
	Operation <u>166E</u>	Operation <u>166F</u>	Operation <u>166G</u>	Operation <u>166H</u>	

FIG. 2A

Liveness	Encoding <u>266</u>
Unconditionally Live	11
Subsequent to 1st Branch	10
Subsequent to 2nd Branch	01
Unconditionally Dead	00

FIG. 2B

162

Tag <u>164</u>	Operation <u>166A</u>	11	Operation <u>166B</u>	01	Operation <u>166C</u>	11	Operation <u>166D</u>	00	Flow Control <u>168</u>
	Operation <u>166E</u>	01	Operation <u>166F</u>	10	Operation <u>166G</u>	01	Operation <u>166H</u>	01	

266A 266B 266C 266D
 266E 266F 266G 266H

FIG. 2C

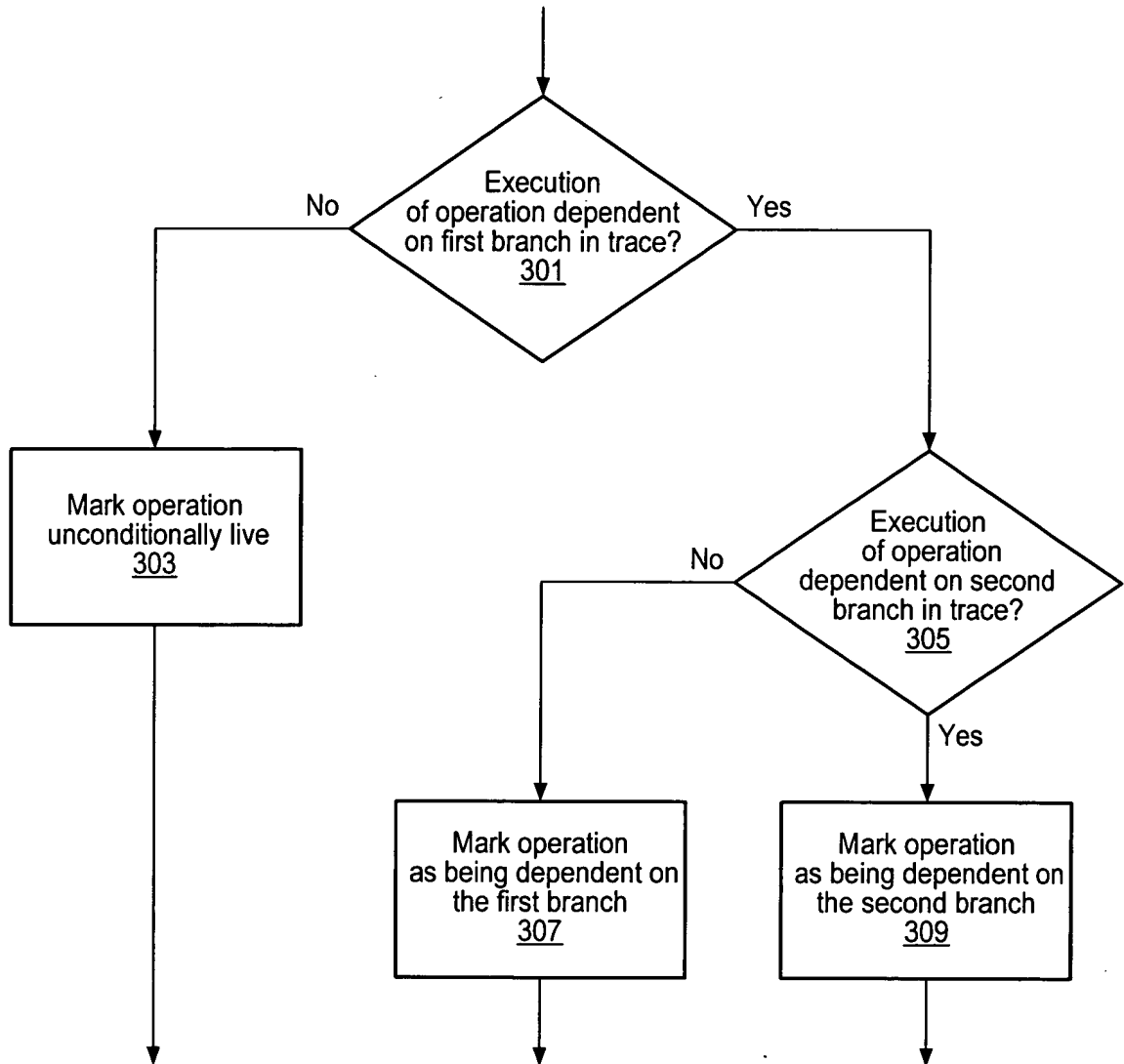


FIG. 3

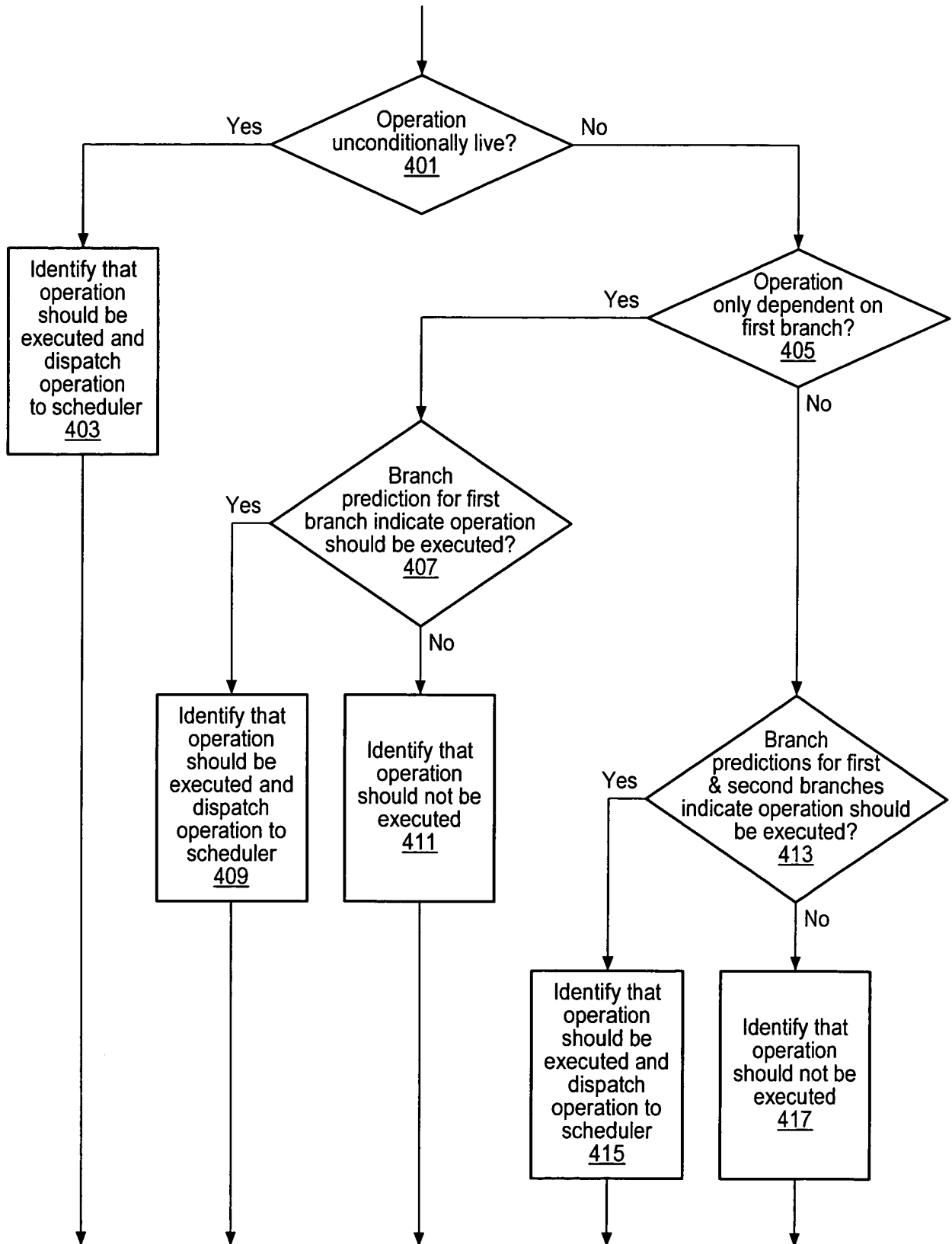


FIG. 4

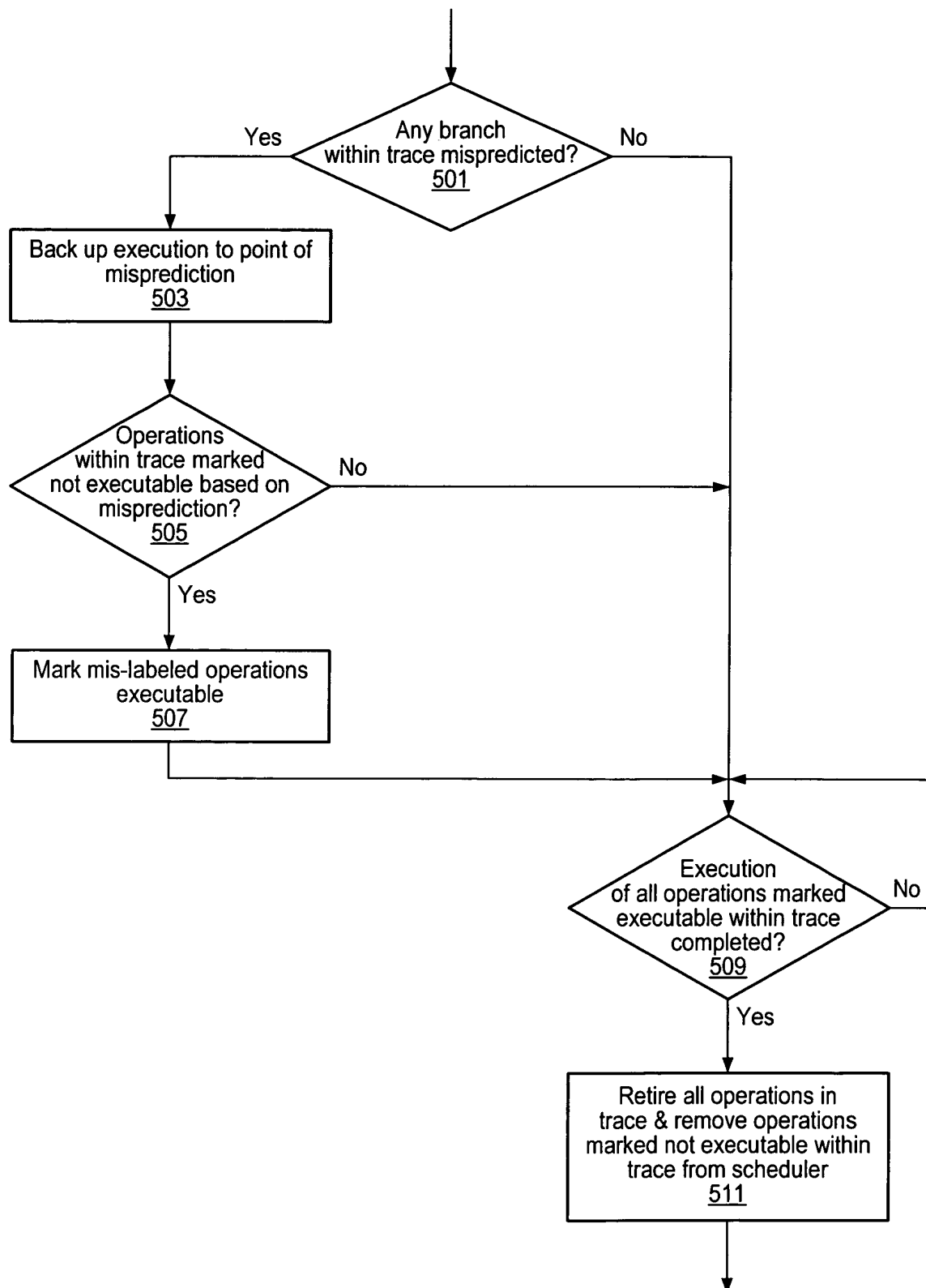


FIG. 5

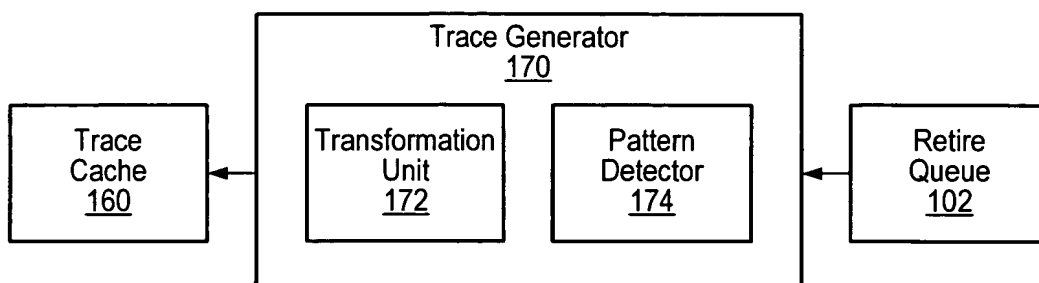


FIG. 6

Before Constant Propagation:

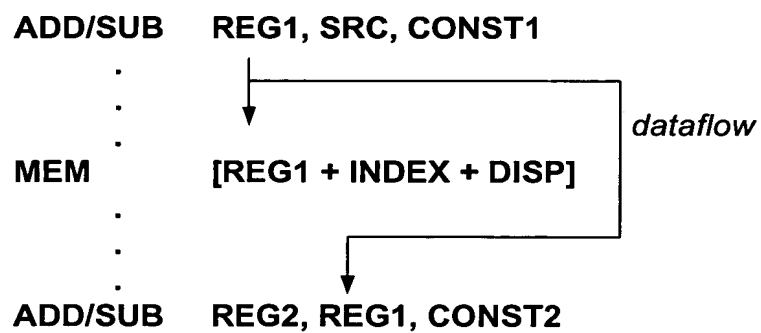


FIG. 7A

After Constant Propagation:

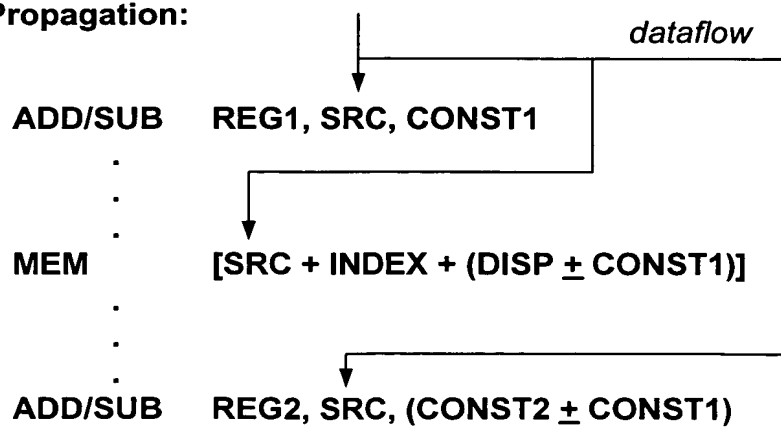


FIG. 7B

Before Move Renaming:

```
MOV  EAX, ESI
.
.
.
ADD  EAX, EAX, 7
```

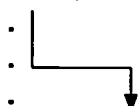


FIG. 8A

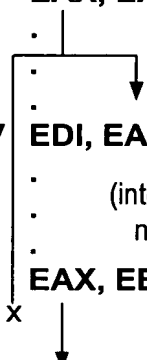
After Move Renaming:

```
ADD  EAX, ESI, 7
```

FIG. 8B

Before Move Renaming:

```
ADD  EAX, EAX, ESI
.
.
.
MOV  EDI, EAX
.
.
.
ADD  EAX, EBX, 2 (value in EAX destroyed)
```



(intervening operations do not use value of EAX)

FIG. 9A

After Move Renaming:

```
ADD  EDI, EAX, ESI
.
.
.
ADD  EAX, EBX, 2
```

FIG. 9B

Before any transformations:

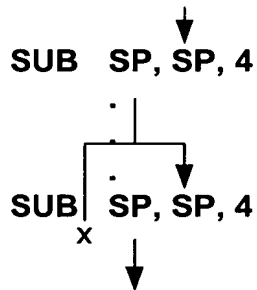


FIG. 10A

Slotification:

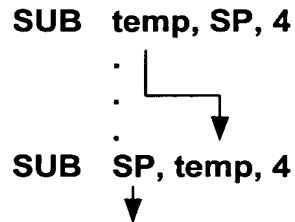


FIG. 10B

After Constant Propagation:

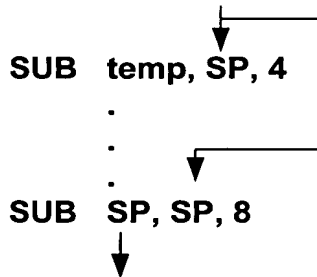


FIG. 10C

After Dead Operation Elimination:

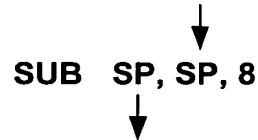


FIG. 10D

Before:

Op1 Sets condition code
 . (intervening instructions do
 . not set condition code)
 .
 JNE Label

FIG. 11A

After Branch Folding:

Op1 Sets condition code; fail if NE

FIG. 11B

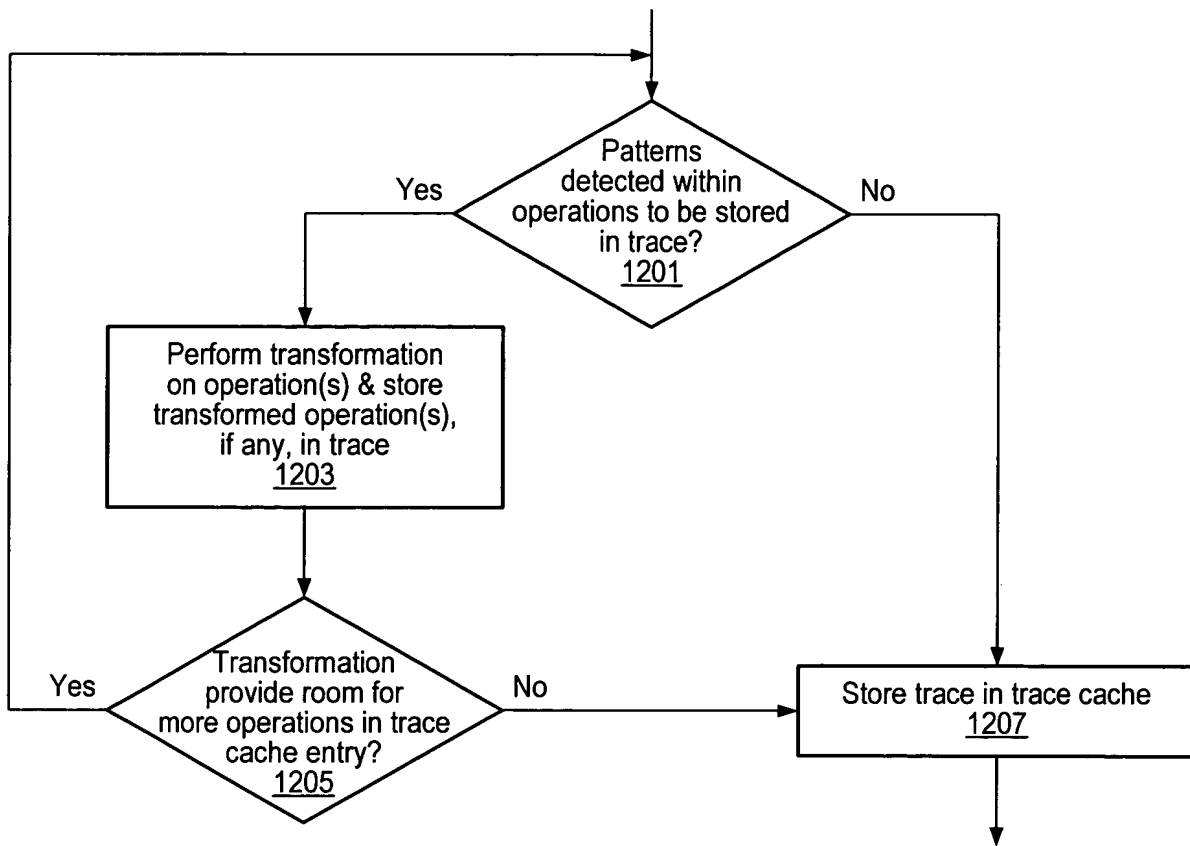


FIG. 12

Instruction Stream:

Instruction1
Instruction2
Instruction3
Microcoded Instruction
Instruction4
Instruction5
.
.
.

FIG. 13A

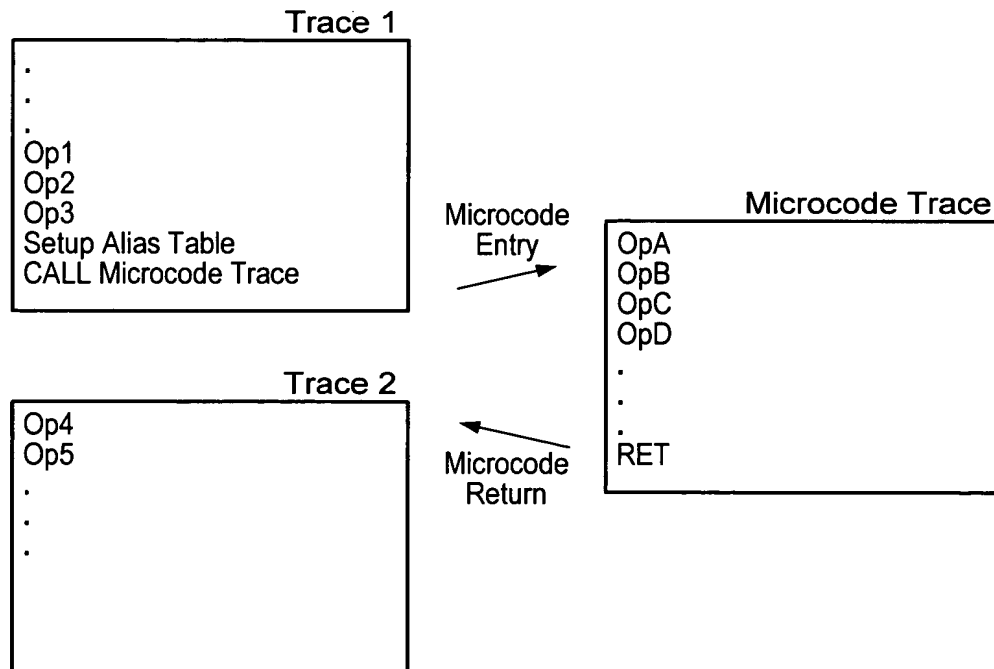


FIG. 13B

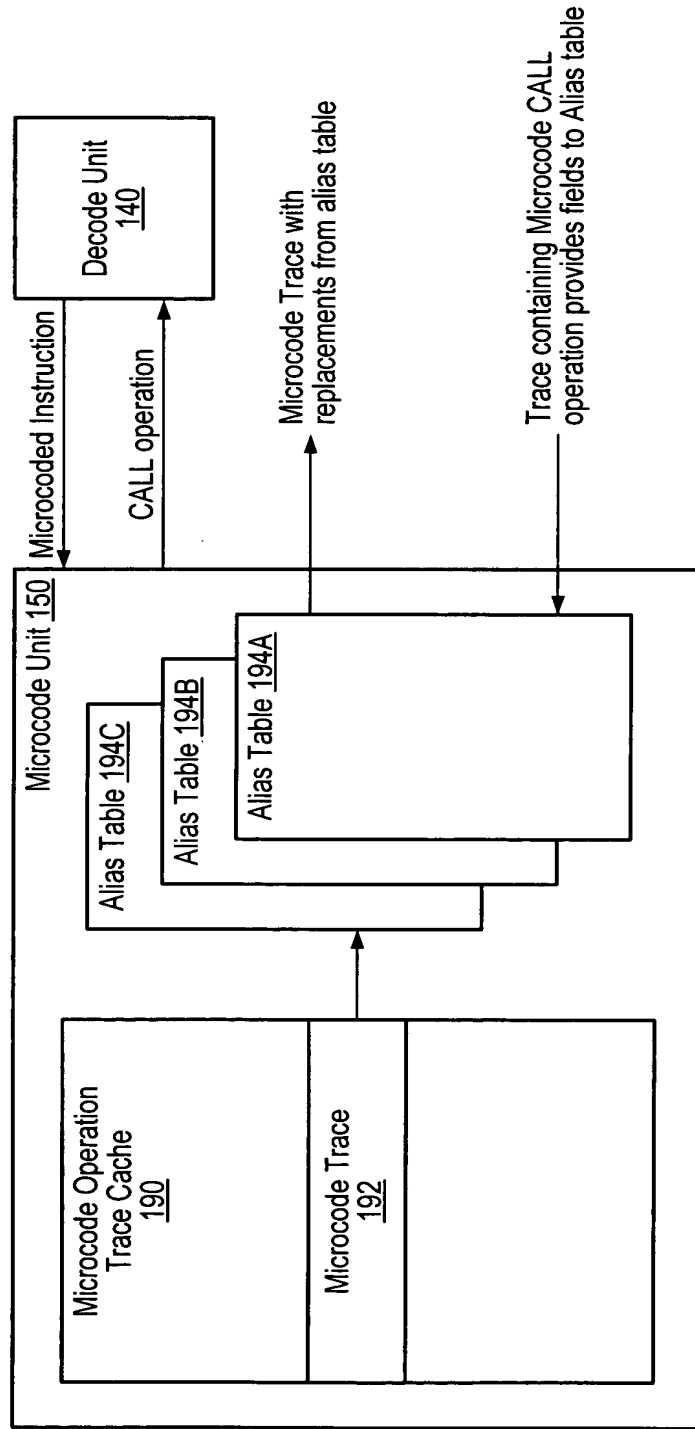
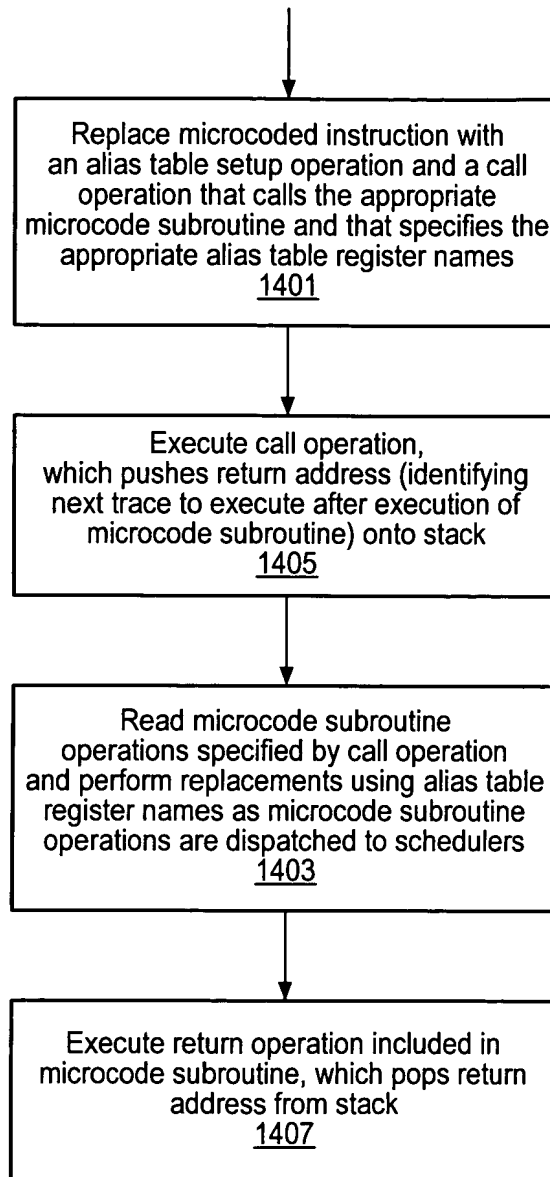


FIG. 13C

**FIG. 14**

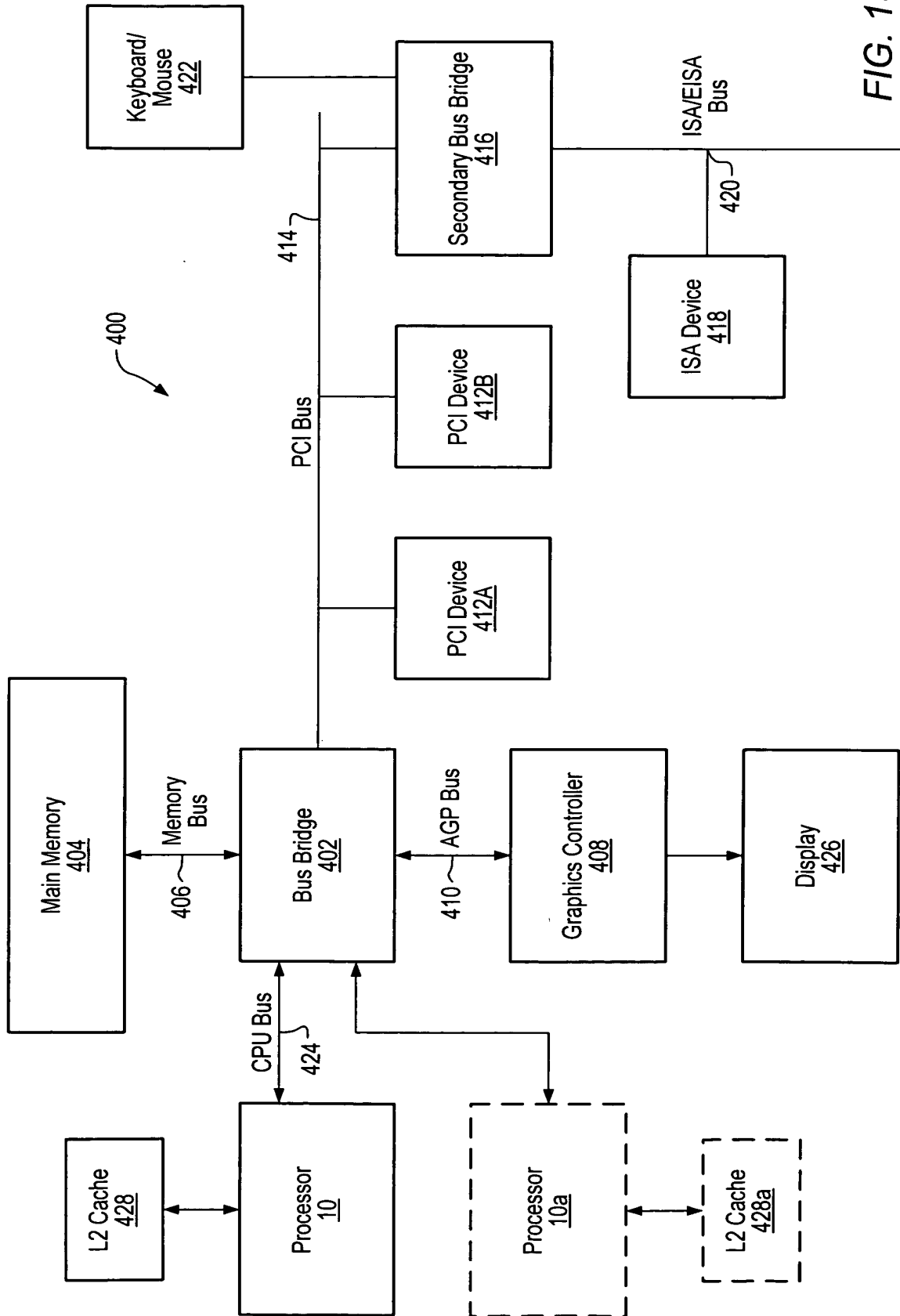


FIG. 15

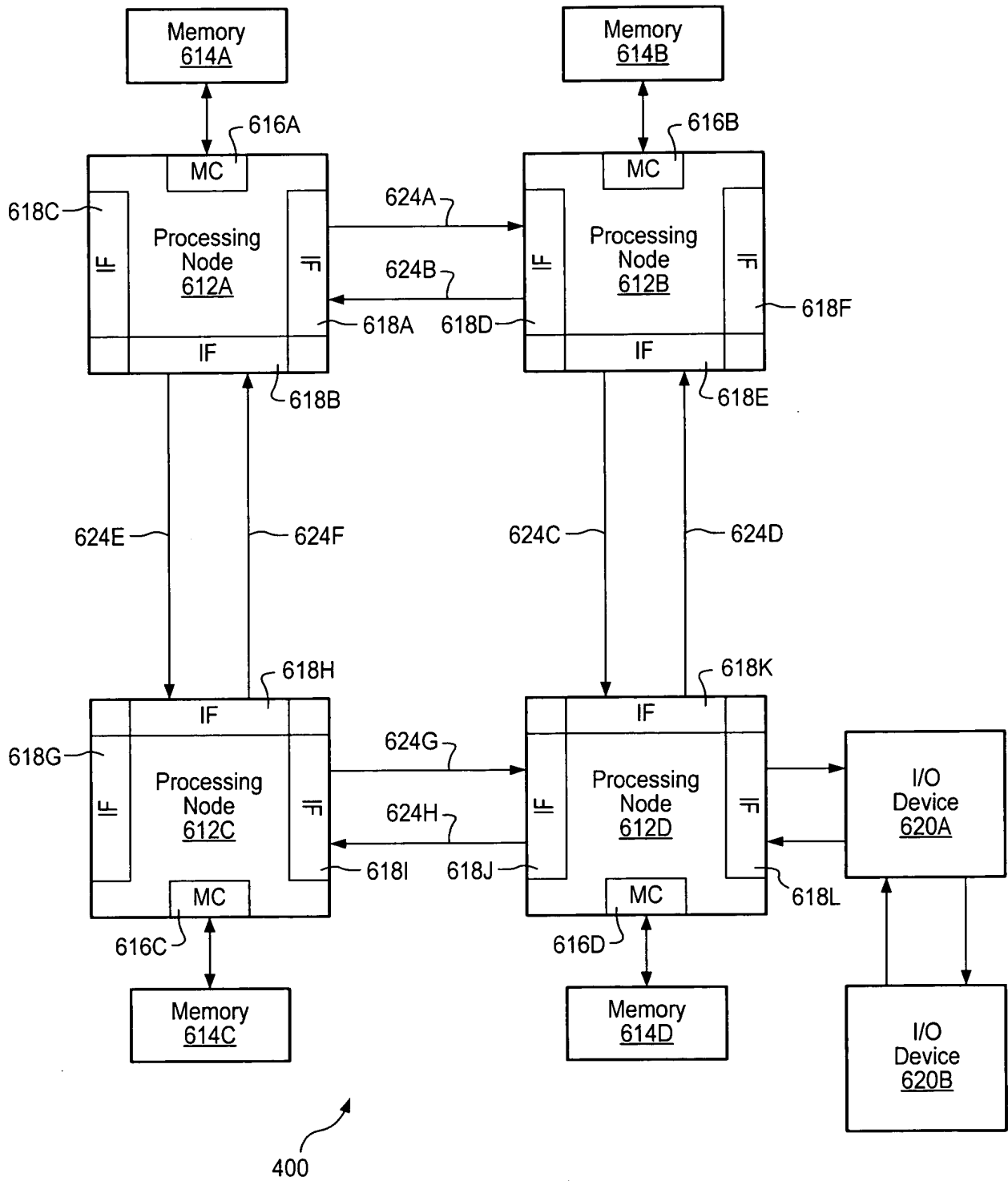


FIG. 16